

# IDALS WETLAND DEVELOPMENT

KOSSUTH COUNTY, IOWA

CONSTRUCTION PLANS FOR:

ISG PROJECT # 15-18017

SITE GRADING, BERM CONSTRUCTION, SHEET PILE, SEEDING



NOTE: THE CLARITY OF THESE PLANS DEPENDS UPON COLOR COPIES. IF THIS TEXT DOES NOT APPEAR IN COLOR, THIS IS NOT AN ORIGINAL PLAN SET AND MAY RESULT IN MISINTERPRETATION.

THIS DOCUMENT IS THE PROPERTY OF ISG AND MAY NOT BE USED, COPIED OR DUPLICATED WITHOUT PRIOR WRITTEN CONSENT.

**IDALS  
WETLAND  
DEVELOPMENT**

KOSSUTH COUNTY IOWA

| REVISION SCHEDULE |             |
|-------------------|-------------|
| NO                | DESCRIPTION |
|                   |             |
|                   |             |
|                   |             |
|                   |             |
|                   |             |
|                   |             |
|                   |             |
|                   |             |
|                   |             |
|                   |             |

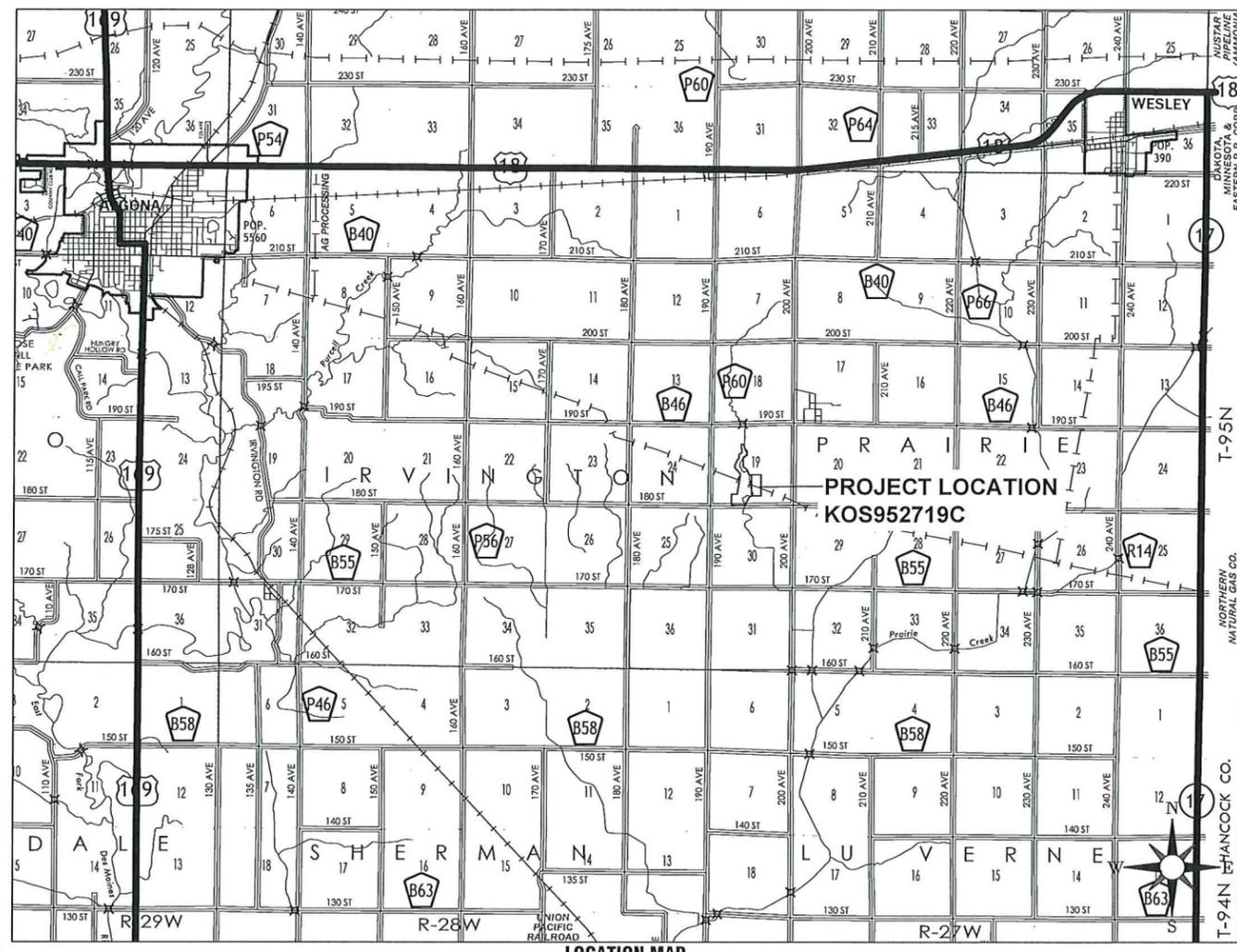
|                    |                       |
|--------------------|-----------------------|
| PROJECT NO.        | 15-18017              |
| FILE NAME          | 18017 TITLE AND NOTES |
| DRAWN BY           | JGFTAC                |
| DESIGNED BY        | KLRNRF/FACTJW         |
| REVIEWED BY        | KLRNRF                |
| ISSUE DATE         | 05/19/2016            |
| CLIENT PROJECT NO. | K05952719C            |

TITLE  
**TITLE SHEET**

SHEET  
**1**

**LEGEND**

- |   |  |
|---|--|
| <p><b>EXISTING</b></p> <ul style="list-style-type: none"> <li>--- CITY LIMITS</li> <li>--- SECTION LINE</li> <li>--- QUARTER SECTION LINE</li> <li>--- RIGHT OF WAY LINE</li> <li>--- PROPERTY / LOTLINE</li> <li>--- EASEMENT LINE</li> <li>--- ACCESS CONTROL</li> <li>--- WATER EDGE</li> <li>--- WETLAND BOUNDARY</li> <li>--- WETLAND / MARSH</li> <li>--- FENCE LINE</li> <li>--- CULVERT</li> <li>--- STORM SEWER</li> <li>--- SANITARY SEWER</li> <li>--- SANITARY SEWER FORCEMAIN</li> <li>--- WATER</li> <li>--- UT --- UNDERGROUND TELEPHONE</li> <li>--- OE --- OVERHEAD ELECTRIC</li> <li>--- UE --- UNDERGROUND ELECTRIC</li> <li>--- UTV --- UNDERGROUND TV</li> <li>--- G --- GAS</li> <li>--- FBO --- UNDERGROUND FIBER OPTIC</li> <li>--- 990 --- CONTOUR (MAJOR)</li> <li>--- 989 --- CONTOUR (MINOR)</li> <li>--- DECIDUOUS TREE</li> <li>--- CONIFEROUS TREE</li> <li>--- TREE LINE</li> <li>--- MANHOLE</li> <li>--- CATCH BASIN</li> <li>--- HYDRANT</li> <li>--- VALVE</li> <li>--- CURB STOP</li> <li>--- POWER POLE</li> <li>--- UTILITY PEDESTAL / CABINET</li> </ul> <p><b>PROPOSED</b></p> <ul style="list-style-type: none"> <li>--- LOT LINE</li> <li>--- RIGHT OF WAY</li> <li>--- EASEMENT</li> <li>--- CULVERT</li> <li>--- STORM SEWER</li> <li>--- STORM SEWER (PIPE WIDTH)</li> <li>--- SANITARY SEWER</li> <li>--- SANITARY SEWER (PIPE WIDTH)</li> <li>--- WATER</li> <li>--- OE --- OVERHEAD ELECTRIC</li> <li>--- UE --- UNDERGROUND ELECTRIC</li> <li>--- UTV --- UNDERGROUND TV</li> <li>--- G --- GAS</li> <li>--- 1015 --- CONTOUR</li> <li>--- MANHOLE</li> <li>--- CATCH BASIN</li> <li>--- HYDRANT</li> <li>--- VALVE</li> <li>--- POOL GRADING</li> <li>--- DEEP POOL</li> <li>--- SHALLOW POOL</li> </ul> | <p><b>PROPOSED</b></p> <ul style="list-style-type: none"> <li>--- LOT LINE</li> <li>--- RIGHT OF WAY</li> <li>--- EASEMENT</li> <li>--- CULVERT</li> <li>--- STORM SEWER</li> <li>--- STORM SEWER (PIPE WIDTH)</li> <li>--- SANITARY SEWER</li> <li>--- SANITARY SEWER (PIPE WIDTH)</li> <li>--- WATER</li> <li>--- OE --- OVERHEAD ELECTRIC</li> <li>--- UE --- UNDERGROUND ELECTRIC</li> <li>--- UTV --- UNDERGROUND TV</li> <li>--- G --- GAS</li> <li>--- 1015 --- CONTOUR</li> <li>--- MANHOLE</li> <li>--- CATCH BASIN</li> <li>--- HYDRANT</li> <li>--- VALVE</li> <li>--- POOL GRADING</li> <li>--- DEEP POOL</li> <li>--- SHALLOW POOL</li> </ul> |
|---|--|



**SHEET INDEX**

| SHEET NO. | SHEET TITLE                               |
|-----------|---|
| 1         | TITLE SHEET                               |
| 2         | SITE PLAN                                 |
| 3         | GRADING PLAN                              |
| 4-5       | TRENCH DRAIN-CORE TRENCH PLAN AND PROFILE |
| 6         | SHEET PILE STRUCTURE                      |
| 7         | STILLING BASIN PLAN AND PROFILE           |
| 8         | WATER CONTROL STRUCTURE                   |
| 9         | WATER CONTROL STRUCTURE DETAILS           |
| 10        | SEEDING                                   |

**PROJECT GENERAL NOTES**

1. ALL WORK SHALL CONFORM TO THE CONTRACT DOCUMENTS, WHICH INCLUDE, BUT ARE NOT LIMITED TO, THE OWNER - CONTRACTOR AGREEMENT, THE PROJECT MANUAL (WHICH INCLUDES GENERAL SUPPLEMENTARY CONDITIONS AND SPECIFICATIONS), DRAWINGS OF ALL DISCIPLINES AND ALL ADDENDA, MODIFICATIONS AND CLARIFICATIONS ISSUED BY THE ENGINEER.
2. CONTRACT DOCUMENTS SHALL BE ISSUED TO ALL SUBCONTRACTORS BY THE GENERAL CONTRACTOR IN COMPLETE SETS IN ORDER TO ACHIEVE THE FULL EXTENT AND COMPLETE COORDINATION OF ALL WORK.
3. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALED DIMENSIONS. NOTIFY ENGINEER OF ANY DISCREPANCIES OR CONDITIONS REQUIRING INFORMATION OR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
4. FIELD VERIFY ALL EXISTING CONDITIONS AND DIMENSIONS. NOTIFY ENGINEER OF ANY DISCREPANCIES OR CONDITIONS REQUIRING INFORMATION OR CLARIFICATION BEFORE PROCEEDING WITH THE WORK.
5. DETAILS SHOWN ARE INTENDED TO BE INDICATIVE OF THE PROFILES AND TYPE OF DETAILING REQUIRED THROUGHOUT THE WORK. DETAILS NOT SHOWN ARE SIMILAR IN CHARACTER TO DETAILS SHOWN. WHERE SPECIFIC DIMENSIONS, DETAILS OR DESIGN INTENT CANNOT BE DETERMINED, NOTIFY ENGINEER BEFORE PROCEEDING WITH THE WORK.
6. ALL MANUFACTURED ARTICLES, MATERIALS AND EQUIPMENT SHALL BE APPLIED, INSTALLED, CONNECTED, ERECTED, CLEANED AND CONDITIONED ACCORDING TO MANUFACTURERS' INSTRUCTIONS. IN CASE OF DISCREPANCIES BETWEEN MANUFACTURERS' INSTRUCTIONS AND THE CONTRACT DOCUMENTS, NOTIFY ENGINEER BEFORE PROCEEDING WITH THE WORK.
7. ALL DISSIMILAR METALS SHALL BE EFFECTIVELY ISOLATED FROM EACH OTHER TO AVOID GALVANIC CORROSION.
8. THE LOCATION AND TYPE OF ALL INPLACE UTILITIES SHOWN ON THE PLANS ARE FOR GENERAL INFORMATION ONLY AND ARE ACCURATE AND COMPLETE TO THE BEST OF THE KNOWLEDGE OF IHS GROUP (ISG). NO WARRANTY OR GUARANTEE IS IMPLIED. THE CONTRACTOR SHALL VERIFY THE SIZES, LOCATIONS AND ELEVATIONS OF ALL INPLACE UTILITIES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES OR VARIATIONS FROM PLAN.
9. THE CONTRACTOR IS TO CONTACT "IOWA ONE CALL" FOR UTILITY LOCATIONS, MINIMUM 2 BUSINESS DAYS PRIOR TO ANY EXCAVATION / CONSTRUCTION (1-800-292-8999).



I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

*Kent L. Rode*      10-7-16

KENT L. RODE      Date  
Pages or sheets covered by this seal: ALL SHEETS LISTED IN THE INDEX OF DRAWINGS  
My license renewal date is December 31, 2017.

**PROJECT INDEX:**

**OWNER:**  
IDALS  
WALLACE STATE OFFICE  
BUILDING  
502 E. 9TH ST.  
DES MOINES, IA 50319  
PH: 515-281-5321

**PROJECT LOCATION:**  
SECTION 19/T-95-N/R-27-W  
  
PRAIRIE TWP  
KOSSUTH COUNTY, IOWA

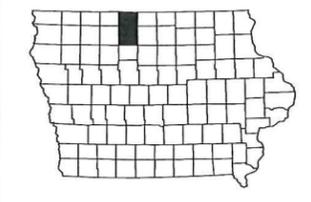
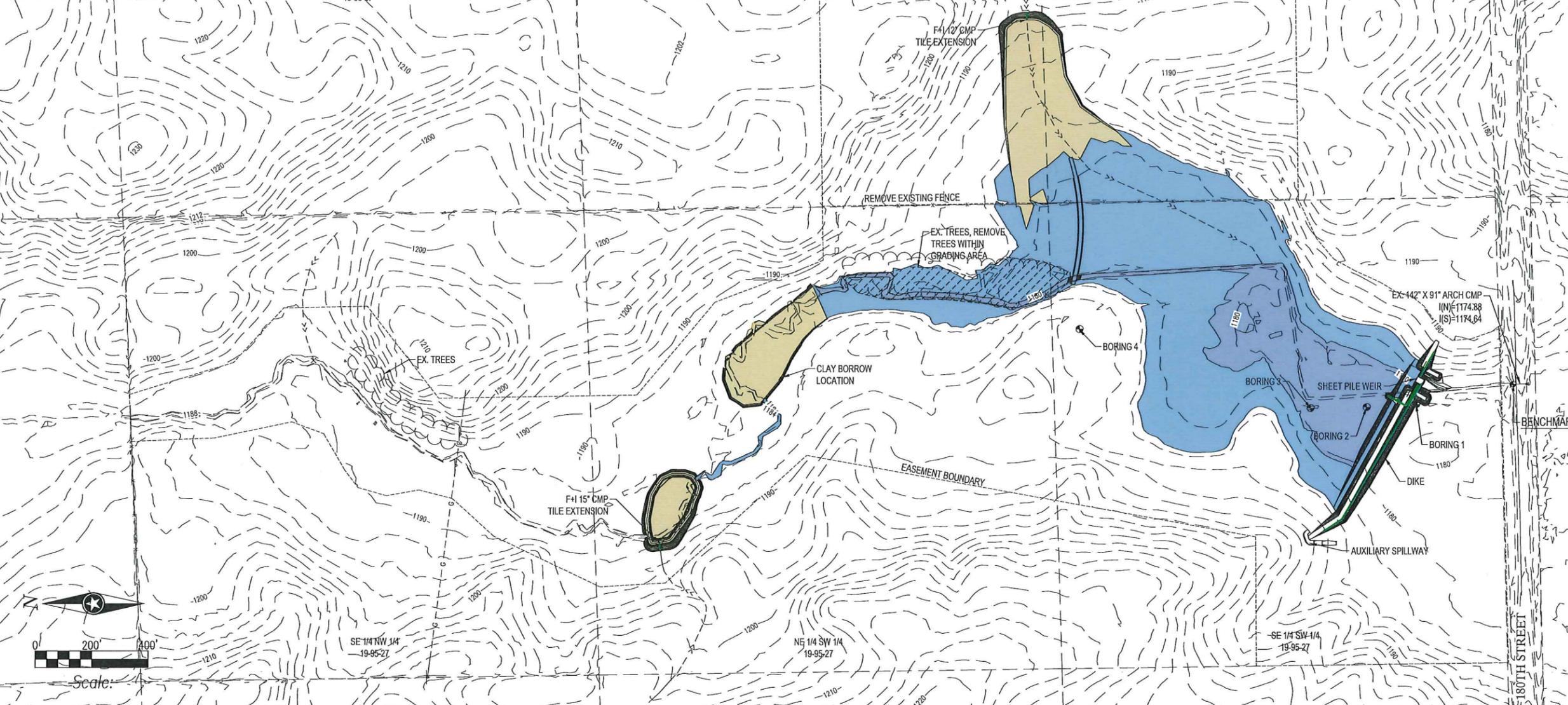
**MANAGING OFFICE:**  
  
  
ALGONA OFFICE  
1609 US HIGHWAY 18 E.  
PO BOX 715  
ALGONA, IA 50511  
PHONE: 515-295-2980  
  
PROJECT MANAGER: NICK FREDERIKSEN  
EMAIL: NICK.FREDERIKSEN@IS-GRP.COM

**SPECIFICATIONS REFERENCE**  
THE PROJECT MANUAL AS PREPARED BY IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP AND ISG SHALL BE CONSIDERED PART OF THIS DOCUMENT. NRCS CONSTRUCTION SPECIFICATIONS SHALL APPLY.  
  
**PROJECT DATUM**  
HORIZONTAL COORDINATES HAVE BEEN REFERENCED TO THE IOWA REGIONAL COORDINATES SYSTEM, REGION NO. 1, IN U.S. SURVEY FEET.  
ELEVATIONS HAVE BEEN REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).  
RTK GPS METHODS WERE USED TO ESTABLISH HORIZONTAL AND VERTICAL COORDINATES FOR THIS PROJECT.

**B.M. ELEVATION=1182.60**  
MAG NAIL IN TOP N. END CMP  
  
**TOPGRAPHIC SURVEY**  
THIS PROJECTS TOPOGRAPHIC SURVEY CONSISTS OF DATA COLLECTED ON 8/2015-1/2016 BY ISG.

**B.M. ELEVATION = 1182.60**

MAG NAIL IN TOP N. END CMP



**NOTE:**  
THE CLARITY OF THESE PLANS DEPENDS UPON COLOR COPIES. IF THIS TEXT DOES NOT APPEAR IN COLOR, THIS IS NOT AN ORIGINAL PLAN SET AND MAY RESULT IN MISINTERPRETATION.

THIS DOCUMENT IS THE PROPERTY OF ISG AND MAY NOT BE USED, COPIED OR DUPLICATED WITHOUT PRIOR WRITTEN CONSENT.

PROJECT  
**IDALS**  
**WETLAND DEVELOPMENT**  
KOSSUTH COUNTY IOWA

**CONSTRUCTION NOTES**

- ALL RIPRAP PLACED BETWEEN STA. 2+37.37 AND STA. 2+83.38 SHALL BE GROUTED. CARE SHOULD BE TAKEN TO ENSURE THAT FINISH ELEVATION OF GROUT AND RIPRAP IS NOT ABOVE WEIR ELEVATION.
- ALL RIPRAP LAYERS SHALL BE PLACED 18" THICK OVER GEOTEXTILE FABRIC.
- RIPRAP IS TO BE CLASS E REVETMENT STONE AS DEFINED BY SECTION 4130 OF THE CURRENT IDOT STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION.
- GEOTEXTILE FABRIC SHALL MEET REQUIREMENTS FOR A CLASS I WOVEN FABRIC. (SEE TABLE 1 OF CONSTRUCTION SPECIFICATION IA-95) IT SHALL CONFORM TO THE REQUIREMENTS AS DEFINED IN SECTION 4196 OF THE IDOT STD. SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION.
- THE GEOTEXTILE SHALL BE PLACED WITH LONG DIMENSION PARALLEL TO THE CHANNEL.
- ALL EXCAVATION AND FILL AREAS OUTSIDE OF THE NORMAL POOL AREA ARE TO BE STRIPPED OF SIX (6) INCHES TOPSOIL (UNLESS DIRECTED OTHERWISE BY PLAN NOTE) TO REMOVE VEGETATION. THE POOL GRADING AND BORROW AREAS INSIDE THE NORMAL POOL ARE TO BE STRIPPED OF NINE (9) INCHES OF TOPSOIL.
- ALL EXPOSED SURFACES TO BE REVEGETATED SHALL BE TOPSOILED TO A MINIMUM DEPTH OF FOUR (4) INCHES (UNLESS OTHERWISE SPECIFIED BY NOTE). AREAS OF POOL GRADING AND BORROW AREAS INSIDE THE NORMAL POOL ARE TO BE COVERED WITH RESPREAD TOPSOIL TO A MINIMUM DEPTH OF SIX (6) INCHES.
- ALL AREAS UNDER STRUCTURE FILL SHALL BE SCARIFIED TO A DEPTH OF SIX (6) INCHES AND BE RECOMPACTED IN ACCORDANCE WITH STD. SPEC. IA-23, SECTION 6, METHOD 1.
- CONTRACTOR IS RESPONSIBLE FOR CALLING IOWA ONE CALL: 1-800-292-8989
- ALL WORK SHALL BE DONE ACCORDING TO OSHA STANDARDS FOR PROTECTION OF LIFE. NOTHING INDICATED ON THE DRAWINGS SHALL RELIEVE THE CONTRACTOR FROM COMPLYING WITH ANY APPROPRIATE SAFETY REGULATIONS.

- ALL TILE LINES UNDER FOOTPRINT OF STRUCTURE ARE TO BE LOCATED DURING CORE TRENCH EXCAVATION AND REMOVED BETWEEN 15' UPSTREAM TO 15' DOWNSTREAM OF STRUCTURE FOOTPRINT. TILE DRAINS EXPOSED BY DAYLIGHT DITCHES OR BORROW SITES SHALL BE SEPARATED AND BE DISPOSED OF BY BURIAL.
- THE EASEMENT BOUNDARY PINS AND MARKERS HAVE BEEN SET. CONTRACTOR SHALL PROTECT ALL FROM DISTURBANCE AND IF DISTURBED THEY WILL BE RESET BY ENGINEER AT CONTRACTOR'S EXPENSE.
- BORROW SITES, AND POOL GRADING AREAS SHALL BE GRADED WITH MINIMUM 6:1 CUT AND FILL SLOPES. FINISH TARGET ELEVATION OF THE BORROW SITE SHALL BE NO MORE THAN 3' BELOW POOL ELEV. 1183.50. WITH PRIOR APPROVAL CONTRACTOR MAY DEVIATE FROM THIS TARGET ELEVATION.
- EXISTING TILE LINES SHOWN ON PLANS ARE APPROXIMATE LOCATIONS. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF TILE DRAINS THAT ARE TO BE DAYLIGHTED AND WHERE OTHERWISE NOTED BEFORE TILE DAYLIGHTS ARE CONSTRUCTED.
- CONTRACTOR SHALL IMMEDIATELY REPORT TO ENGINEER ALL PREVIOUSLY UNKNOWN TILE LINES ENCOUNTERED DURING THE WORK AND LEAVE THE TILE LINES UNCOVERED FOR EVALUATION BY ENGINEER.
- CONTOURS SHOWN AT 1' INTERVALS
- CONTRACTOR SHALL EXCAVATE TEST HOLES IN AREAS SHOWN WITH ENGINEER PRESENT TO DETERMINE IF MATERIAL IS SUITABLE FOR BORROW PRIOR TO STRIPPING TOPSOIL.
- ALL TREES ARE TO BE CLEARED AND GRUBBED WITHIN THE AREAS INDICATED. NO TREE COUNT WILL BE PROVIDED, CONTRACTORS ARE ENCOURAGED TO VISIT SITE TO MAKE AN ACCURATE ESTIMATE OF CLEARING AND GRUBBING COSTS.
- EXISTING SITE IS ESTABLISHED WITH CRP SEEDING. CONTRACTOR SHALL AVOID DESTROYING EXCESS AREAS OF ESTABLISHED SEEDING DURING CONSTRUCTION OPERATION.

**ESTIMATED SITE CHARACTERISTICS**

| PROJECT ID                   | KOS952719C |           |
|------------------------------|------------|-----------|
| PRELIMINARY OR FINAL DESIGN  | FINAL      |           |
| DRAINAGE AREA                | 2448       | ACRES     |
| WETLAND POOL AREA            | 19.43      | ACRES     |
| DEEP POOL AREA (>3 FT DEEP)  | 3.58       | ACRES     |
| NORMAL POOL ELEVATION        | 1183.50    | FEET      |
| AVERAGE POOL DEPTH           | 2.05       | FEET      |
| MAXIMUM POOL DEPTH           | 7.50       | FEET      |
| POOL STORAGE                 | 38.77      | ACRE-FEET |
| BERM ELEVATION               | 1188.50    | FEET      |
| BERM STORAGE                 | 174.80     | ACRE-FEET |
| LENGTH OF BERM               | 678        | FEET      |
| AUXILIARY SPILLWAY ELEVATION | 1188       | FEET      |
| AUXILIARY SPILLWAY WIDTH     | 10         | FEET      |
| WEIR WIDTH                   | 50         | FEET      |
| DROP HEIGHT                  | 9          | FEET      |
| POOL PORTION                 | 0.77       | PERCENT   |
| DEEP WATER                   | 0.17       | PERCENT   |
| SHALLOW POOL DISTURBANCE     | 19.56      | PERCENT   |
| BUFFER TO POOL RATIO         | 2.52:1     |           |

**LEGEND**

|  |              |
|--|--------------|
|  | POOL GRADING |
|  | DEEP POOL    |
|  | SHALLOW POOL |

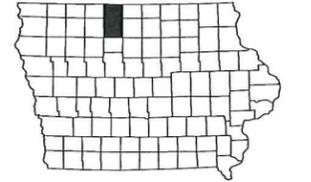
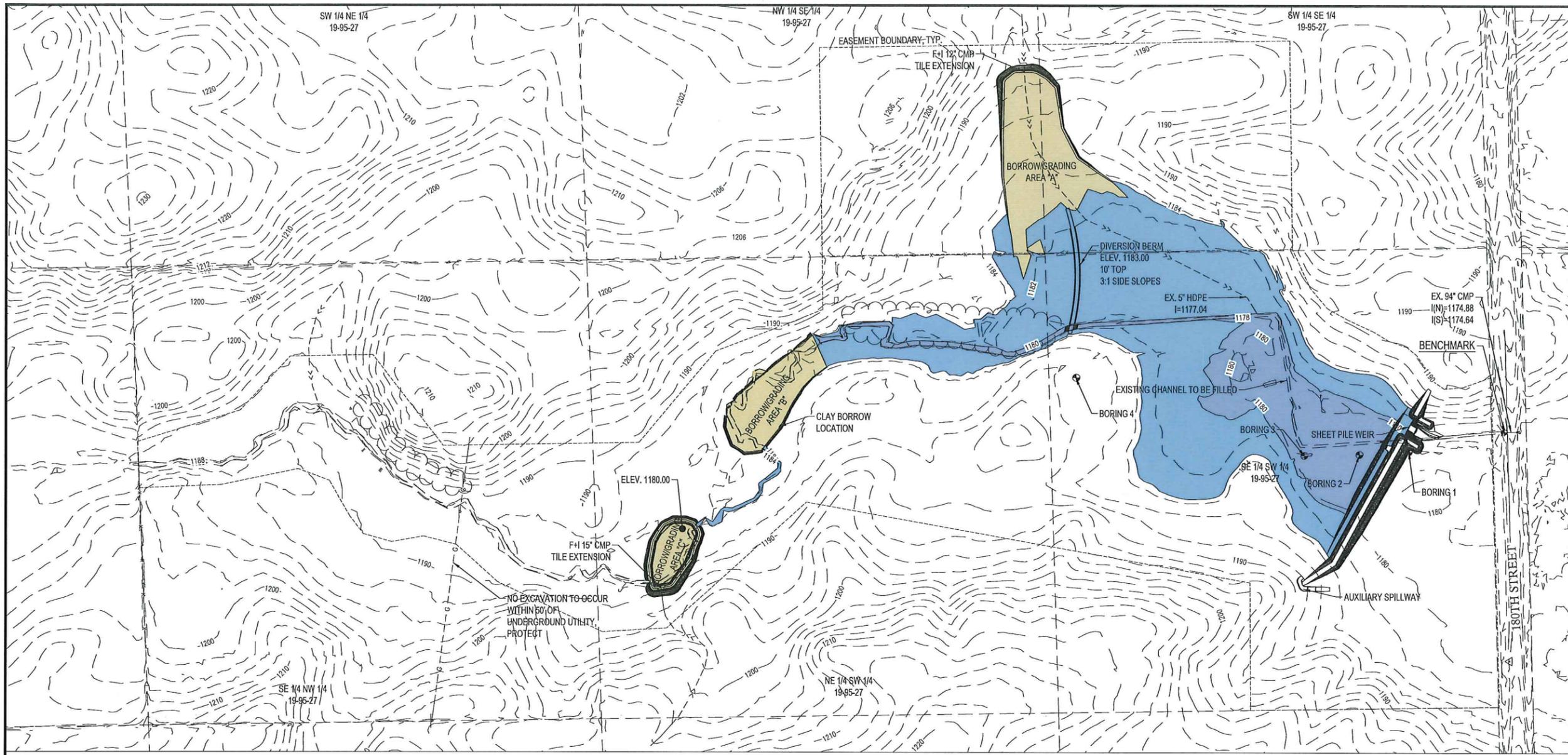
| REVISION SCHEDULE |             |
|-------------------|-------------|
| NO                | DESCRIPTION |
|                   |             |
|                   |             |
|                   |             |
|                   |             |

PROJECT NO. 15-18017  
 FILE NAME 18017 SITE PLAN  
 DRAWN BY JKFTAC  
 DESIGNED BY KLR/NRF/TAC  
 REVIEWED BY KLR/NRF  
 ISSUE DATE 05/19/2016  
 CLIENT PROJECT NO. KOS952719C

TITLE

**SITE PLAN**

SHEET  
**2**



**NOTE:**  
THE CLARITY OF THESE PLANS DEPENDS UPON COLOR COPIES. IF THIS TEXT DOES NOT APPEAR IN COLOR, THIS IS NOT AN ORIGINAL PLAN SET AND MAY RESULT IN MISINTERPRETATION.

THIS DOCUMENT IS THE PROPERTY OF ISG AND MAY NOT BE USED, COPIED OR DUPLICATED WITHOUT PRIOR WRITTEN CONSENT.

PROJECT  
**IDALS**  
**WETLAND DEVELOPMENT**  
KOSSUTH COUNTY IOWA

| REVISION SCHEDULE |                  |
|-------------------|------------------|
| NO                | DATE DESCRIPTION |
|                   |                  |
|                   |                  |
|                   |                  |
|                   |                  |
|                   |                  |
|                   |                  |
|                   |                  |
|                   |                  |
|                   |                  |
|                   |                  |

PROJECT NO. 15-18017  
FILE NAME 18017 GRADING PLAN  
DRAWN BY JKJ  
DESIGNED BY NRF/  
REVIEWED BY NRF/  
ISSUE DATE 05/19/2016  
CLIENT PROJECT NO. KOS952719C

TITLE  
**GRADING PLAN**

SHEET  
**3**

**NOTES:**

- CONTRACTOR SHALL EXCAVATE BORROW TEST HOLES IN AREAS SHOWN WITH ENGINEER PRESENT TO DETERMINE IF MATERIAL IS SUITABLE FOR BORROW PRIOR TO STRIPPING TOPSOIL.
- BORROW/GRADING AREA SIDE SLOPES ARE TO BE AS LABELED. CONTOURS SHOWN ARE AT 1' INTERVALS.
- POOL ELEVATION IS 1183.50.
- BOTTOM ELEVATION OF BORROW/GRADING AREAS SHALL BE AS SHOWN ± 0.2'. A "ROUGH" OR ROLLING BOTTOM WILL BE ALLOWED AS IT WILL ADD DIVERSITY TO THE BORROW AREA.
- TOPSOIL SHALL BE STRIPPED FROM THE BORROW/GRADING AREAS AND STOCKPILED TO BE RESPREAD TO A 6" DEPTH OVER ENTIRE THE AREA ONLY AFTER BORROW GRADING IS COMPLETE.
- AFTER PLACEMENT OF TOPSOIL, ALL BORROW/GRADING AREAS AND SHALLOW POOL AREAS ARE TO BE SCARIFIED. THIS IS DONE TO ENSURE A LOOSE SEED BED FOR WETLAND VEGETATION TO BE ESTABLISHED.

| ID                      | AREA (SF) | CUT (CY) | FILL (CY) | 6" TOP SOIL STRIPPING (CY) |
|-------------------------|-----------|----------|-----------|----------------------------|
| BORROW/GRADING AREA "A" | 99,570    | 7,520    | -         | 1,844                      |
| BORROW/GRADING AREA "B" | 47,874    | 2,545    | -         | 883                        |
| BORROW/GRADING AREA "C" | 29,549    | 5,175    | -         | 547                        |

ALL AREAS ARE ESTIMATED AND VOLUMES ARE RAW QUANTITIES. CHART IS PROVIDED AS AN ESTIMATE FOR CONTRACTOR TO USE IN DETERMINING EFFICIENT EARTHWORK OPERATIONS FOR BORROW, ANY EARTHFILL PLACEMENT.

**LEGEND**

- POOL GRADING
- DEEP POOL
- SHALLOW POOL

**B.M. ELEVATION=1182.60**  
MAG NAIL IN TOP N. END CMP

Scale: